

Description of a new species of *Acestridium* (Siluriformes: Loricariidae) from Colombia

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Abstract

Acestridium colombiensis is described from a single series of specimens from the Río Inirida, Colombia. *Acestridium colombiensis* can be distinguished from its congeners by a unique combination of characters: two unpaired median pre-dorsal plates, body width 10.0–13.0% of post-dorsal fin length, inter-orbital distance between 10.6–13.0% of post-dorsal fin length, inter-orbital distance between 25.0–29.0% of eye-to-dorsal fin length; low number of jaw teeth (12–15 teeth in upper left jaw, 9–13 teeth in lower left jaw), pre-dorsal fin body pigmentation not formed into distinct lines between longitudinal rows of odontodes.

Key words: Loricariidae, *Acestridium*, Río Inirida, Colombia, new species

Introduction

The Neotropical catfish genus *Acestridium* (Siluriformes: Loricariidae) is currently represented by three species with general distributions in the middle and upper Orinoco, Casiquiare, and Rio Negro basins of Venezuela and Brazil (Retzer et al., 1999). Recently, a previously unknown collection of *Acestridium* was discovered at the Field Museum of Natural History, Chicago, Illinois, USA. Further examination of these specimens in a single lot revealed the specimens to represent an undescribed species and the first record of *Acestridium* in Colombia. The new species is described herein.

Materials and Methods

This study is based on counts and measurements from 38 specimens of *Acestridium dichromum*, 63 *Acestridium martini*, and 10 specimens of the new species. An additional 5

specimens of the type series of the new species were also examined but no counts taken and no measurements made except for standard length (SL). Measurements (in mm) were made using dial or digital calipers. Counts and measurements follow Boeseman (1971) and Retzer et al. (1999). SPSS 11[®] (Statistical Package for Social Sciences) was used to explore mensural and meristic variation among the species of *Acestridium*.

The following comparative materials were used. Institutional abbreviations follow Leviton et al. (1985).

Acestridium dichromum: Venezuela — ANSP 161494, 2 ex.; FMNH 85827, 2 ex.; FMNH 103325, 1 ex.; FMNH 103326, paratypes, 3 ex.; INHS 40427, paratype, 1 ex.; MBUCV V13037, paratypes, 6 ex.; MBUCV V26780, holotype; MCNG 21746, paratypes, 9 ex.; MCNG 21838, 7 ex.; MCNG 23423, 1 ex.; MCZ 88581, 5 ex.

Acestridium martini: Venezuela — FMNH 85827, 2 ex.; FMNH 103323, 7 ex.; FMNH 103324, 3 ex.; FMNH 103325, paratypes, 9 ex.; FMNH 103555, paratypes, 7 ex.; INHS 27642, 1 ex.; INHS 40425, paratype, 1 ex.; INHS 40426, 1 ex.; INHS 61564, paratypes, 3 ex.; MBUCV V16448, paratypes, 4 ex.; MCNG 21747, paratypes, 11 ex.; MCNG 23446, 3 ex.; MCNG 23590, 3 ex.; MCNG 26585, 3 ex.; MCNG 23422, paratypes, 4 ex.; MCNG 36484, holotype.

Acestridium colombiensis, new species

(Fig. 1)

Holotype. FMNH 115255, 49.5 mm SL, sex unknown. Colombia: Guainia State: Orinoco Basin: Río Inirida, lagoon at 1 km up river from Puerto Inirida, 28 March 1974, Thomsen, Hicks, Baskin, Rofen.

Paratypes. FMNH 105169, 10 ex., 35.64-44.4 mm SL; same data as holotype. — INHS 99093, 2 ex., 39.5-45.7 mm SL same data as holotype — USNM 381314, 2 ex., 38.5-41.4 mm SL same data as holotype.

Diagnosis: *Acestridium colombiensis* can be distinguished from its congeners with a unique combination of characters: two unpaired median pre-dorsal plates, body width 10.0–13.0% of post-dorsal fin length, inter-orbital distance between 10.6–13.0% of post-dorsal fin length, inter-orbital distance between 25.0–29.0% of eye-to-dorsal fin length; low number of jaw teeth (12–15 teeth in upper left jaw, 9–13 teeth in lower left jaw), pre-dorsal fin body pigmentation not formed into distinct lines between longitudinal rows of odontodes.

Description: Largest specimen is the holotype, 49.5 mm SL. Meristic and morphometric data given in Tables 1 and 2.

Overall coloration of specimens in alcohol light brown dorsally, less pigmented ventrally but more brownish posterior to anal fin. Top of head brown with sides of head more darkly pigmented anterior to eye, through eye, and fading from side of body anterior to

dorsal fin. Predorsally, melanophores mostly scattered, not forming into distinct lines between longitudinal rows of odontodes on plates; melanophores may form faint blotches between plates. Post-dorsal of dorsal fin melanophores mostly scattered but may form faint lines between rows of odontodes.

TABLE 1. Meristic data for *Acestridium martini* and *Acestridium colombiensis*.

	<i>Acestridium martini</i> (N=63) mode (range)	<i>Acestridium colombiensis</i> (N=10) mode (range)
Upper left jaw teeth	15 (12–20)	12 (12–15)
Lower left jaw teeth	15 (11–19)	11 (9–13)
Abdominal plates	8 (5–12)	8 (8–10)
Lateral plates	28 (26–30)	26 (23–28)
Post-anal plates	17 (15–19)	17 (16–18)
Post-dorsal plates	18 (17–20)	18 (17–20)
Pre-dorsal median plates	6 (5–7)	6 (6–7)

TABLE 2. Standard length (SL) and measurements as percentage of SL in holotype and paratypes of *Acestridium colombiensis*.

Measurement	Holotype	Paratypes	
		Range	Mean ± SD
Standard Length (mm)	49.5	36.9–45.7	41.5±2.7
Pre-dorsal Length/SL	46.1	44.2–47.7	46.0±1.1
Head Length/SL	26.6	25.7–27.9	26.8±0.8
Snout-to-Eye Length/SL	20.2	19.1–20.5	20.0±0.5
Pelvic Spine Length/SL	6.8	5.1–7.0	6.4±0.7
Snout-to-Vent Length/SL	41.8	40.5–42.7	41.9±0.6
Post-dorsal Fin Length/SL	54.4	49.8–56.2	53.8±1.9
Inter-orbital Width/SL	6.0	5.7–7.0	6.3±0.4
Pectoral Fin Origin to Pelvic Fin Origin/SL	9.6	10.1–11.5	10.8±0.5
Body Width/SL	6.7	5.5–6.8	6.1±0.5
Eye-to-Dorsal Fin/SL	23.3	22.0–24.2	23.3±0.8
Oral Disk Width/SL	5.8	4.7–5.8	5.3±0.4

Small brown melanophores on all fins, dorsal and caudal fins more pigmented than ventral fins. One to three faint bands may be present on caudal fin; melanophores on rays but not on membranes.



FIGURE 1. *Acestridium colombiensis* INHS 99093, paratype, 45.7 mm SL, dorsal, lateral, and ventral views. Photos by Michael Retzer and Chris Taylor.

Outer portion of the upper lip is lightly pigmented and the inner portion is unpigmented. The lower inner lip is unpigmented and the outer side has a few dark melanophores.

Comparisons: *Acestridium colombiensis* is most similar to *Acestridium martini* but differs in pigmentation and some body proportions. *Acestridium colombiensis* has a larger inter-orbital distance in relation to the distance between the eye and dorsal fin (25.0–29.0% in *A. colombiensis*, 17.0–24.0% in *A. martini*, Fig. 2). The two species also differ in the ratio of the inter-orbital distance to post-dorsal length (10.6–13.0% in *A. colombiensis* and 7.0–10.5% in *A. martini*). *Acestridium colombiensis* has an oral disk width that is 24.0–29.0% of snout to eye length vs. 17.0%–27.0% in *A. martini*.

Predorsally, the unpigmented rows of odontodes are longitudinally parallel and separated by distinct stripes of melanophores in *A. martini*. In *A. colombiensis*, the melanophores are randomly dispersed under and between the rows of odontodes and no distinct pattern of odontodes and pigment stripes is present.

Acestridium colombiensis is narrower than *A. dichromum* (body width equals 10.0–13.0% of post-dorsal fin length vs. 14.0–18%, Fig. 3) and has fewer jaw teeth than *A. dichromum* (12–15 teeth in upper left jaw vs. 24–30 and 9–13 teeth in lower left jaw vs. 20–36 teeth).

Acestridium colombiensis has two median predorsal plates, vs. three for *Acestridium discus* (Retzer et al., 1999).

Distribution: *Acestridium colombiensis* is only known from Río Inirida, (Orinoco Basin), Guainia State of Colombia. This record is the first for a species of *Acestridium* in Colombia.

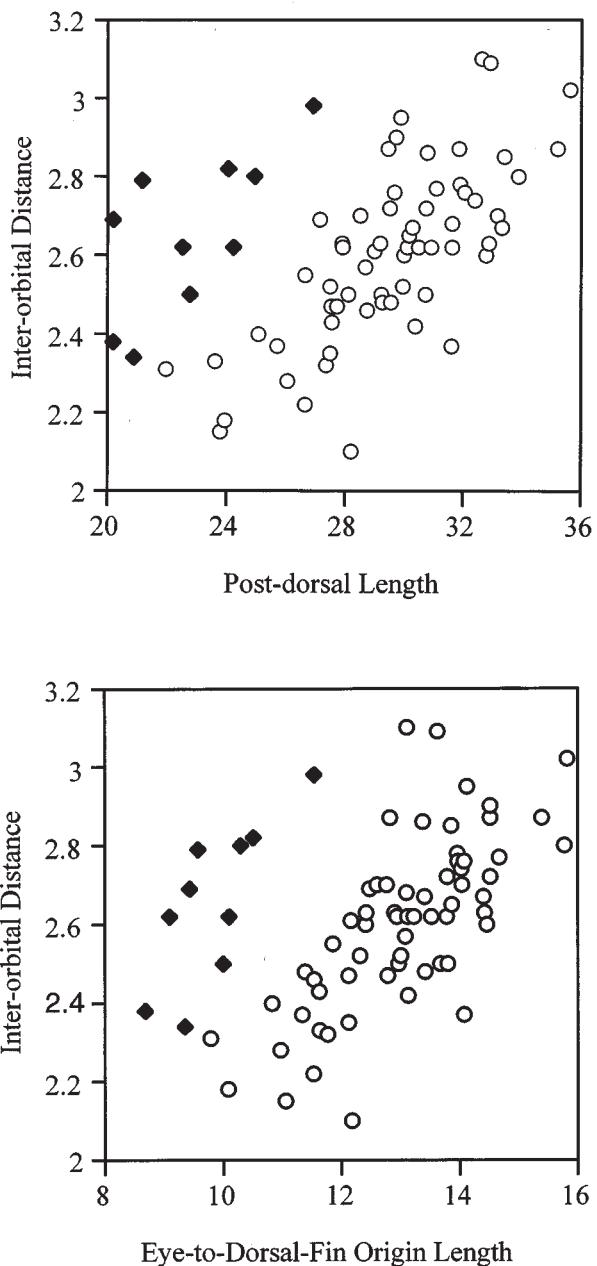


FIGURE 2. Inter-orbital distance in relation to post-dorsal length (above) and eye-to-dorsal-fin-origin length (below). Open circles represent *Acestridium martini*; closed diamonds represent *Acestridium colombiensis*.

Etymology: The species epithet, *colombiensis* refers to the fact that the species is only known from Colombia.

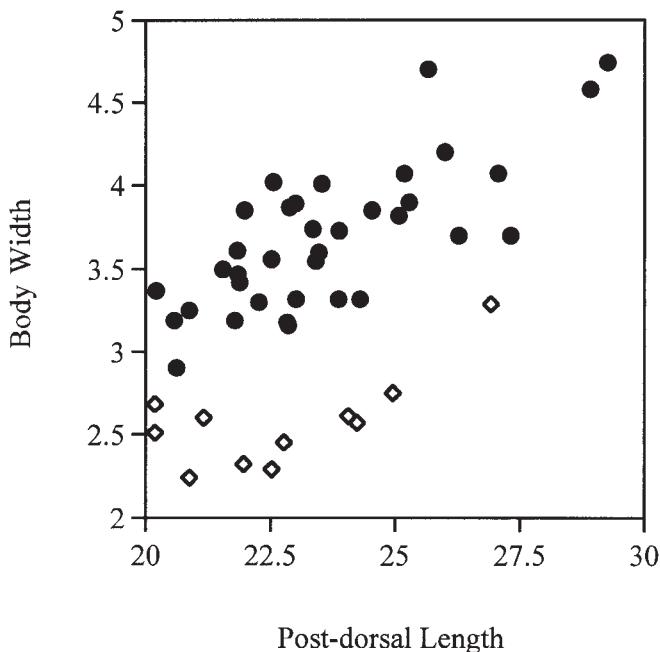


FIGURE 3. Body width in relation to post-dorsal length. Closed circles represent *Acestridium dichromum*; closed diamonds represent *Acestridium colombiensis*.

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References

Boeseman, M. (1971) The “comb-toothed” Loricariinae of Surinam, with reflections of the phylogenetic tendencies within the family Loricariidae (Siluriformes, Siluroidei). *Zoologische Verhandelingen* No. 116, 1–56.

Leviton, A.E., Gibbs, R.H. Jr., Heal, E. & Dawson, H.E. (1985) Standards in herpetology and ichthyology: Part I. Standard symbolic codes for institutional resource collections in herpetology and ichthyology. *Copeia*, 1985, 802–832.

Retzer, M.E., Nico, L.G. & Provenzano R., F. (1999) Two new species of *Acestridium* (Siluriformes, Loricariidae) from southern Venezuela, with observations on camouflage and color change. *Ichthyological Exploration of Freshwaters*, 10, 313–326.